

## Abstracts for Day 1: Authenticity and Innovation in Learning and Teaching 2021 Learning and Teaching Conference, Faculty of Medicine, Dentistry and Health Sciences

### Stream 1: Clinical Learning

#### **How Six Optometry Schools Adapted their Teaching during the COVID-19 Pandemic**

Dr Jia Jia Lek, Hui Shan Lim, Dr Anuradha Narayanan, Dr Jessica Neuville, Dr Krithica Srinivasan, Jessica Shan Mei Yang, Dr Kwang Meng Cham

11.05am - 11.25am

The cessation of face-to-face classes because of the pandemic has greatly impacted curricula delivery and student learning experiences across the world. To encourage sharing of best practices, academics from the Department of Optometry and Vision Sciences at The University of Melbourne invited five international optometry schools to present on how each school adapted their teaching and learning considering the pandemic at an online webinar on 14 December 2020.

Some key challenges identified that were consistent across schools included the training of students in practical skills in the absence of on campus classes, interaction with peers as practice patients, and equipment handling. Some strategies deployed by optometry schools internationally to help students achieve technical competency and/or maintain currency in their knowledge included the use of online discussion boards, virtual simulators, digital game-based learning tool, online simulated clinic, and activities such as creating testing equipment and videos on clinical techniques. It is hoped that through gathering and sharing a range of examples from optometry schools worldwide, it would encourage further development of alternative and innovative models for educating students more efficiently.

#### **Implementing Digital Technologies for Meaningful Remote Student Experiences**

Dr Rita Hardiman, Dr Kwang Cham, Jairus Browne, Keenan Hellyer, Julie Owen

11.25am - 11.45am

Ongoing disruption in 2020/21 has made clinical and pre-clinical health education more challenging. We have previously relied on the accessibility of preclinical, clinical and laboratory spaces for student orientation and group introductory sessions. Access is now limited due to density requirements and ongoing timetable pressures.

Further to this, first year students are required to adapt to the preclinical environment rapidly. Anecdotal evidence suggests that students find this unfamiliar space daunting. Likewise, second and third-year students struggle with the transition from the preclinical to the clinical environment for the same reason mentioned above. From a timetabling viewpoint, it is costly, impractical and unsustainable to deliver multiple introductory practical classes to ensure student familiarity with learning environments in overcrowded curricula. An alternative and flexible model is required to help students familiarise themselves with these environments, making teaching and learning more efficient, and reducing student stress and anxiety.

This project is a joint endeavour by the Melbourne Dental School, Optometry & Vision Sciences and the Digital Learning Hub. Here, we present innovative use of technology to create virtual clinical and pre-clinical spaces, adaptable to a number of learning and teaching activities, and with increased flexibility of access.

## **An Interactive Imagination: Digital Clinical Simulations for Audiology Students**

Donella Chisari, Patrick Bowers

11.45am - 12.05pm

In any clinical teaching program, there is a critical need for students to gain real-world experience for skill development. Typically, this relies on clinical placement opportunities under the supervision of experienced clinicians to ensure adequate exposure and competency to practice.

We have developed a suite of clinical simulations that draw on a range of audiological sub-fields and testing techniques. Within the Audiology curriculum, students have access to a suite of clinical placement simulations, incorporating communication and behavioral interactions across the clinical setting, as well as processes and testing techniques using a kinaesthetic pedagogy.

These modules draw on a range of digital learning strategies, including gamification, narrative storytelling, software simulation, and branching dialogue. This suite of modules has been included in the curriculum and will continue to feature on an ongoing basis, enabling teaching staff to remotely foster practical skill development in the areas of safety, assessments, and clinical decision making.

## **Teaching and Examining Clinical Experience Online**

Dr Grace Nixon, Associate Professor Dani Tomlin, Dr Kelley Graydon, Patrick Bowers

12.05pm - 12.25pm

Over the 2020 and 2021 lockdown period, student clinical experience was significantly reduced. This meant students had reduced practice of the clinical skills required to graduate and perform as an independent clinical audiologist. Patient interaction, practice of audiological assessments and management planning are all significant skills learned through clinical placements. To overcome the barriers of reduced patient interaction and students engaging in the course remotely, we created online virtual patient experiences. Students would have multiple one-on-one “virtual patients” throughout the semester with a qualified audiologist. In this interaction, students had remote control of clinical equipment, and the tutor acted as the patient. Students were required to take a clinical history, test the tutors hearing and create a management plan that was delivered to the “patient” as clinical feedback.

This process was well received by students, and it meant that we could control the complexity of cases to best match the students’ current skillset, and provide challenging cases that may not be guaranteed to present in every clinical placement. Furthermore, it created a way to examine student skills practically online in a familiar, realistic way, congruent with their practice throughout the semester.

## Stream 2: Teaching Innovation

### **Interprofessional Education: A Practical Health Sciences Experience for Students**

Dr Peter Carew, Associate Professor Anthea Cochrane

11.05am - 11.25am

To complete their degree and prepare for their future careers, Audiology and Optometry students share a common requirement; they both need to be able to work with children. Students from both disciplines may be strong in their respective hearing or vision assessment skills, but without access to paediatric clinical experiences they have limited opportunity to develop their own interaction and communication style. This practical experience supports competence in genuine interactions, a backbone of successful clinical practice.

The combination of increasing student numbers alongside a scarcity of paediatric clinical placements (even prior to the pandemic) resulted in an audiology optometry interprofessional education (IPE) initiative at the juncture of learning and service. We describe the outcome of this collaboration, where optometry students joined an existing audiology initiative to successfully perform community-based hearing and vision screenings for children. We share the process of designing the IPE event, from development to implementation and evaluation, drawing upon student feedback to examine their perceptions of this opportunity to learn from and with each other. We also share our thoughts on how the principles of IPE can be capitalised upon for enhancing student experiences.

### **Exploring Interdisciplinary Professionalism Through Creativity and Diversity**

Dr Kwang Meng Cham, Dr Anu Polster, Dr Guy Morrow

11.25am -11.45am

#### **Introduction/background:**

There is a paucity of research into interdisciplinary learning of professionalism that facilitates creativity and diversity.

#### **Aim/objectives:**

We evaluated students' experiences participating in interdisciplinary group work that facilitated creativity and diversity in a gallery/museum to learn about professionalism.

#### **Methods:**

Students from Biomedicine, Oral Health, Dentistry, Optometry, Arts and Film/TV explored a gallery/ museum to choose an artefact that relates to professionalism. Quantitative and qualitative data were analyzed.

#### **Results:**

A total of 30 students participated in the study. This project has augmented their professional development, with 90% of the students reporting that the task had helped improve their communication and inter-personal skills. Themes identified from the essays and interviews included intrinsic motivation, divergent and convergent thinking, own construction of understandings of professionalism and scheduling difficulties.

#### **Discussion:**

Students found that this project encouraged them to diverge their thinking and gave them a wider view into what professionalism could entail. They learnt to negotiate to resolve their differences. Allowing this process, the students could think convergently to complete their projects.

#### **Conclusions:**

This study gave the students an opportunity to think metaphorically about professionalism. Conceptual elaboration and transfer in relation to students' learnings of professionalism were achieved beyond a dictionary definition.

### **Innovative Dance Workshops for Physiotherapy Students – Educator Perspectives**

Dr Natalie Fini, Cassie McDonald, Dr Kim Dunphy, Anna Smith, Dr Kate Cameron, Dr Ella Dumaresq, Dr Kelly Bower, Associated Professor Fiona Dobson, Dr Deb Virtue, Dr Karen Donald  
11.45am -12.05pm

#### **Aim:**

To explore the acceptability, facilitators and challenges of dance workshops within an innovative dance program from the perspectives of collaborating dance and physiotherapy educators.

#### **Method:**

Physiotherapy, Dance Movement Therapy and Dance staff were invited to participate in semi-structured interviews. Interviews explored collaborator perspectives on novel dance workshops they developed and delivered to >100 Doctor of Physiotherapy students to prepare them to facilitate dance classes in an aged care facility. Framework analysis, using inductive and deductive coding (challenges, facilitators), was used.

#### **Results:**

Eleven staff members (seven Physiotherapy, three Dance Movement Therapy, one Dance) participated in the interviews. Two themes were developed inductively: 'negotiating interdisciplinary collaboration'; and 'reflecting on and learning from a new program.' Three themes captured program facilitators: 'perceived value and potential of workshops;' 'constructive and collaborative staff attitudes;' and 'workshops with dance experts were critical to program success.' Three themes represented perceived challenges: 'disparate perceptions and expectations;' 'program design and timing caused safety concerns and limited student learning;' 'managing logistics and time-consuming preparation.'

#### **Conclusion:**

Staff perceived aspects of the dance workshops were acceptable; challenges highlight areas for future program improvement. Interprofessional collaborations are valued, may provide novel learning opportunities for students, and require clear communication for success.

### **Telehealth Education for Entry to Practice Health Professional Students**

Dr Mark Merolli, Dr Daniel Capurro, Luke Davies, Dr Diego Lopez-Peralta, Professor Rodrigo Marino  
12.05pm -12.25pm

Telehealth has developed and continues to advance rapidly, as seen recently through the COVID-19 pandemic. Our project team feel an obligation to educate and train our students (the future health workforce) to an evolving modality of practice, which will undoubtedly feature more readily in healthcare. Our abstract outlines the development and piloting of a new foundational entry to practice telehealth educational package funded through the University's LTI grant initiative. The program covers foundational knowledge introducing students to: digital health, what telehealth is, how it works and what telehealth entails, telehealth modalities and architectures, ethics and governance, regulation and funding, and delivering telehealth.

This new program combines self-directed asynchronous learning, with synchronous interprofessional simulation over seven modules to advance knowledge and skills in contemporary digital health practice. While led by Health Sciences and Dentistry, the program is suitable for all health professions students. We

will also discuss implications on promoting digital health literacies and digital health technology acceptance amongst our students. This learning experience will expose and equip our future health professionals with core foundational capabilities that are necessary to work in diverse multidisciplinary scenarios in real-world practice and address current and new demands in healthcare using telehealth and ICT.

## Stream 3: Teaching Innovation

### **“Thought-Provoking and Inspirational” Engaging staff in Curriculum Innovation**

Dr Samantha Byrne, Dr Clare McNally

11.05am - 11.25am

Engaging staff in the process of curriculum review as a shared responsibility promotes widespread participation. With staff working in varied geographic locations, meaningful and productive staff engagement in such processes is challenging. This presentation describes the Melbourne Dental School (MDS) Curriculum Review Staff Summit. A faculty retreat focus group guide from global DentAlliance partner University of North Carolina Adams School of Dentistry inspired the design of a virtual, collaborative summit. Over 44 staff including pre-clinical and clinical demonstrators, lecturers, researchers and professional staff, and representing all academic levels contributed to the summit over 3 ½ hours. The summit format enabled staff to share their perspectives on the current MDS curriculum, anticipated and desired changes to the dental profession and curriculum, and approaches to achieving Faculty and University strategic goals. Employing a variety of online tools, staff could participate in discussion and collaborative problem solving. The use of simple tools such as collaborative documents enabled the perspectives of all staff in attendance to be simultaneously recorded and shared. This format could be employed by other Schools in the Faculty when embarking on similar projects requiring inclusive staff participation for success.

### **Development of a Curriculum Framework for Learning Health Systems**

Professor Kathleen Gray, Dr Kayley Lyons, Dr Dawn Choo, Dr Daniel Capurro, Dr Douglas Pires, Professor Wendy Chapman

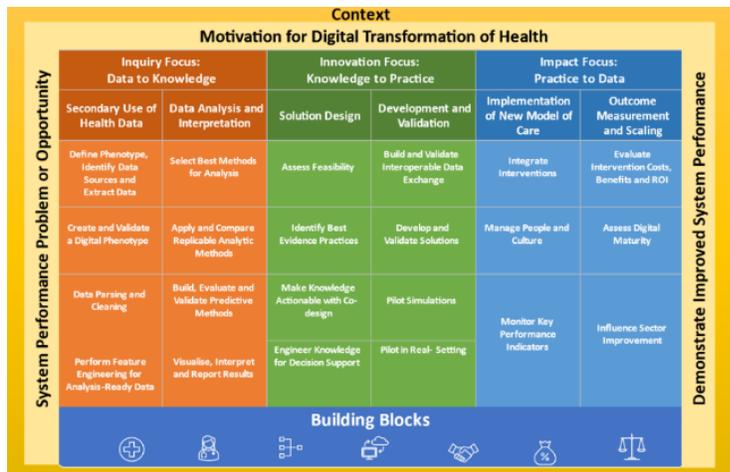
11.25am -11.45am

#### **Introduction:**

The Learning Health System (LHS) approach was developed as a mechanism to bridge the evidence-to-practice gap efficiently, through continuous cycles of study, feedback and practice change with the objective of streamlining improvements to individual and population health outcomes<sup>1,2</sup>. Electronic Health Records (EHRs), research-ready data and analytical systems are being rolled out across health service providers in Australia to support this cycle of evidence generation, translation and evaluation, however workforce adoption of LHS practices remains a systemic challenge<sup>3</sup>.

#### **Method:**

A review and synthesis of competencies<sup>4-8</sup>, articulated in the recent research and grey literature, was conducted to ascertain workforce capabilities required for LHS implementation. Gaps in local educational offerings and continuing professional development opportunities were also identified. The proposed curriculum framework was refined through rounds of consultation with subject matter experts, stakeholders and representatives from administrative, government, clinical and MedTech sectors to ensure that the competencies reflected value for their workforce segments.



## Results:

A LHS competency-based curriculum framework was developed for the existing Australian health workforce, including non-clinical health professionals and clinical degree students. Each part of the LHS cycle was represented as three main domains of competency and modularized in the curriculum framework (Figure 1). Foundational competencies of health and health systems, health information technologies, digital economy and society complemented the three LHS domains as building blocks within the framework.

Figure 1. Modularised LHS Curriculum Framework

## Discussion:

The proposed LHS curriculum framework is guided by the principles of modularization, stackability and repurposability to: (i) build flexible short course learning packages for different learner segments (ii) allow for integration within existing clinical degree programs and (iii) inform the curriculum renewal of digital health award programs at the university to drive the digital transformation of the healthcare sector.

## Conclusion:

A cross-disciplinary, active learning course based on the developed LHS curriculum framework is being piloted in collaboration with affiliated health services.

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## **Your Quest Begins Now! EBMQuest, an Online Interactive Fiction Module for Medical Student Engagement in Evidence-based Practice**

Dr Aiden Varan, Dr Ken Winkel, Associate Professor Rosemary McKenzie  
11.45am -12.05pm

### **Introduction:**

In support of expanded evidence-based medicine (EBM) teaching for UniMelb MD4 students, we developed a novel online interactive fiction module 'EBMQuest' exploring EBM through clinical scenarios.

### **Methods:**

EBMQuest (<https://ebmquest.github.io>) was built using Twine 2.3.13. Scenarios focused on post-operative tachypnoea, minor trauma, and delirium, with an embedded Australian EBM resource portal (e.g., Therapeutic Guidelines) and a brief feedback survey. Survey questions included overall module rating (1 ('Very Poor') to 5 ('Very Good')), and free-text comments. Binomial proportions and 95% exact confidence intervals were calculated.

### **Results:**

Among 337 enrolled MD4 students, 196 (58%; 95% CI: 53-63%) responded to the survey. The average overall module rating was 4.64/5 (standard deviation: 0.65). Ninety-two (47%; 95% CI: 40-54%) respondents provided free-text comments; common themes included positive user experience (83%; 95% CI: 73-90%), positive educational value (49%; 95% CI: 38-60%), and expansion requests (21%; 95% CI: 13-30%). Following release, 310 (92%; 95% CI: 89-95%) students attended a synchronous webinar reflecting on EBMQuest.

### **Conclusions:**

EBMQuest, a novel module to enhance evidence-based medical education, was well-received among participating students. Module authors have subsequently been awarded MDHS Learning and Teaching Initiative Seed Funding to develop 'EBDQuest', an interprofessional module to enhance evidence-based decision making across health disciplines.

## **Insights of Healthcare Students' Digital Capabilities**

Dr Kwang Meng Cham, Mary-Louise Edwards, Lisa Kruesi, Tania Celeste, Dr Trent Hennessey  
12.05pm -12.25pm

### **Introduction/background:**

Healthcare students value and recognize the key role digital literacy has in enhancing their employability. However, it remains questionable if students' everyday technological skills do accurately reflect their digital skills capabilities in learning environments.

### **Aim/objectives:**

We evaluated the needs, practices and attitudes of students in the digital environment.

### **Methods:**

Undergraduate (Oral Health) and postgraduate (Optometry, Physiotherapy, Speech Pathology and Dental Surgery) students across all year levels attended a digital literacy workshop and completed pre- and post-surveys.

### **Results:**

Of the students 72% (n=343) reported using online tools several times a day, with Facebook (95%) being most frequently used. Most students (81%) reported that being digitally competent will enhance their career and

professional development. Only 35% felt that this was achieved during their course of study, and 89% stated more University support and services is warranted.

**Discussion:**

Health professional educators can bridge the gap in digital practices between graduates and the workplace by recognizing students' digital skills and competencies and providing opportunities for digital learning within the curriculum.

**Conclusions:**

Students' digital skills and competencies can be enhanced by facilitating dialogue between universities, employers and accrediting bodies in the health sector to set consistent and realistic expectations.